

are often smaller than desirable and growing along roads or pathways, where light exposure is different from inside the rainforest, it is necessary to tread with some care. As one very experienced identifier of rainforest plants has been heard to say, 'I can see oil dots because I know they should be there'. Experience and knowledge still play a substantial role in successful identification and comparison with known material is still necessary for final confirmation of an identification.

That said, the computer key in both MCDOS and MacIntosh versions is very easy to use. The character states are clearly explained in Volume 1 and moving through the key is simple and straightforward. As mentioned under 'Points to consider when using the key' note that some terms are used in other than their strict botanical sense. For example bracts or winged outgrowths of the stem are occasionally referred to as stipules when they occur where stipules might be expected.

Volume 1 also contains an exhaustive list of common and standard trade names under which each species may be known.

The species descriptions in Volume 2 and the leaf photographs in Volume 3 are invaluable for anyone with an interest in rainforest plants, and they are useful quite apart from the key. These two volumes constitute the first easily accessible compendium of information on northern Australian rainforest trees since W.D. Francis published his final edition of 'Australian Rainforest Trees' in 1970.

The key program may be loaded onto a laptop for use in the field. The accompanying volumes are rather bulky for field use and it would be very useful to be able to store the character sets used for each identification for further checking. This is not yet possible but may be considered for future editions of the package.

It is useful to be able to call up the character states listed for each species so that the differences between apparently similar species may be analysed. The MSDOS program allows the user to do this but is not possible with the MacIntosh program.

This package seems good value for the price (\$195) and it will undoubtedly encourage many people who felt daunted by card keys or

who did not have the resources for specimen matching to attempt their own identifications. The information in the printed volumes will be very valuable to professional botanical users and amateurs alike and the authors should be congratulated on an excellently designed and user-friendly product. In fact it is to be hoped that more of Australia's northern flora will be soon covered in as meticulous and user-friendly a fashion.

Caroline Hohnen

Queensland Herbarium, Meiers Road, Indooroopilly, Qld 4068, Australia

B.R. Roberts and R.G. Silcock (1993). *Western Grasses: a Grazier's Guide to the Grasses of South West Queensland*. Pp. 141. University of Southern Queensland Press, Toowoomba. Price. \$14. ISBN 0 949414 60 3.

In these days of increased awareness of the environmental factors affecting the condition of land in Australia, particularly in relation to its pastoral productivity, it is important to be able to promote a land-care ethic in as simple a way as possible. This is ably done by Roberts and Silcock in the introductory essay to their book on the grasses of Western Queensland entitled 'The Pastoral Zone and Its Management.' The theory of the complicated ecological network linking vegetation, climate, economics, pasture condition and management, fire, carrying capacity, stocking rates and movement is presented in a very clear manner by the authors, both of whom have many years of practical experience in this field. An indication of the South African connection of the senior author is revealed in the diagram on p 10 in the term 'veld type', which should be replaced by 'vegetation type' in the Australian context.

The second and main part of this book consists of an account of 52 grasses, those the authors consider to be the most common of South Western Queensland, in the form of one page of text accompanied by an illustration on the opposing page by Gillian Scott. In the introduction to this section the authors mention a figure of 117 grass species for South West Queensland. Without knowing their geographical boundaries this figure must be far too low, taking into consideration that a list of 338

grasses are generated for the pastoral districts of Gregory North, Gregory South, Mitchell, Warrego and Maranoa from a database of grasses I have of Australian grasses at the Queensland Herbarium. Roberts and Silcock have 15% of this total in their book. Even for the pastoral districts of Warrego and Maranoa a figure of 265 (20% of this total in Roberts & Silcock) is generated, and of this list there are as many as 34 genera from these two districts of the south-west which are not treated by Roberts and Silcock. Some of these such as *Alloteropsis*, *Ancistrachne*, *Diplachne* and *Setaria* are common representative of native pastures and should have been included.

The identification table on p 33, used in conjunction with the diagram on p 34, is a useful practical aid to identification of a grass, assuming it is one of the species covered by the book. Strictly speaking the caption of the left hand column should possibly be 'land type' as categories included in this column cover aspects of ecology other than 'type of soil' e.g. Box Sandlewood.

There is a text for each of the 52 species in the book. The first section consists of a description featuring the habit, inflorescence (as 'seedhead'), and leaves in all descriptions. Occasionally other morphological features, such as ligules and nodes are mentioned or other attributes of the plant such as colour or odour. There is probably a need for more standardisation in the description. Following the description is a small section describing the soils types associated with the grass. In one case under this heading (*Enneapogon polyphyllus*) a comment on response to rainfall has been placed here, presumably in error. Finally the text give details on the grazing value of the grass with a statement on palatability and a measure of crude protein levels and in most cases also of phosphorous. Now and then there is also some mention of ecological characters of the grass, but again there is a need for greater standardisation of the presentation of data.

The illustrations of Gillian Scott are clear and usually adequate to be able to identify the particular species concerned. In some cases, however, there is a further need for the spikelets to be shown at a higher magnification to illustrate some detail of the spikelets, e.g. in *B. piligera* where spikelets ('seeds') are cov-

ered in 'short fine hairs' but this feature cannot be seen in the illustration.

Bryan K. Simon

Queensland Herbarium, Meiers Road, Indooroopilly, Qld 4068, Australia

Brian Roberts (1993). *Ground Rules, Perspectives on Land Stewardship*. Pp. 316. University of Southern Queensland Press, Toowoomba. Price \$24. ISBN 0 949 41452 2.

This is the third book dealing with Landcare and the stewardship approach to property and natural resource management produced by Brian Roberts, Professor of Land Use at University of Southern Queensland, Toowoomba. It comes at the end of the first three years of the development of landcare in Australia and after 20 or so years that Brian has worked in land and natural resource management.

The book is a collection of papers, some of which have been published elsewhere, but others are presented in this volume for the first time. As stated in the Preface... "This collection also reflects the expansion and maturing of the author's world view over a period of two decades."

Its central theme is the development of the ethics required for sustainable land management in Australia. It is an important text in this regard because, although landholders love their farms and the way of life, there is not yet a widely adopted system of sustainable production which is linked into conserving all the natural resources occurring on farms. Brian's unifying theme is that the development of ethics that will lead to sustainable resource management is interwoven with one's attitudes and beliefs, whether religiously based or not. I agree with him. Europeans, brought up on the Christian work ethic, sought to subdue the land and its resources. They did not align land use practices with the nature of the environment in which they were operating. Consequently, in the name of 'economic production' great parts of the continent have been degraded.

Brian Roberts has divided his papers into six parts. Firstly, he discusses the concept of **sustainability** from the broad international perspective dealing with human population